



DOCKET NO. ~~WI~~ 2001-00024  
Customer No. 23990

*AP/26A*  
PATENT

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re application of: Paul F. Struhsaker  
Serial No.: 09/839,499  
Filed: April 20, 2001  
For: APPARATUS, AND AN ASSOCIATED METHOD, FOR  
PROVIDING WLAN SERVICE IN A FIXED WIRELESS  
ACCESS COMMUNICATION SYSTEM  
Group No.: 2617  
Examiner: James D. Ewart

**MAIL STOP APPEAL BRIEF - PATENTS**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

**APPEAL BRIEF**

This Brief is submitted on behalf of Appellant for the application identified above. A check for the \$250.00 fee for filing a brief on appeal is enclosed. Please charge any additional necessary fees to Deposit Account No. 50-0208.

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**REAL PARTY IN INTEREST**

The real party in interest for this appeal is the assignee of the application, ACCESS SOLUTIONS, LTD.

**RELATED APPEALS AND INTERFERENCES**

There are no known appeals or interferences that will directly affect, be directly affected by, or have a bearing on the Board's decision in this pending appeal.

**STATUS OF CLAIMS**

Claims 1-17 and 19-24 are pending in the present application. Claim 18 has been canceled. Claims 21-23 were rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 5,604,789 to *Lerman*. Claims 1-3, 5-10, 16-17 and 19 were rejected under 35 U.S.C. § 103(a) as being unpatentable over European Published Patent Application 0 690 638 A1 ("EP '638") in view of U.S. Patent No. 5,673,307 to *Holland et al.* Claim 4 was rejected under 35 U.S.C. § 103(a) as being unpatentable over EP '638 in view of *Holland et al* and further in view of U.S. Patent No. 5,115,463 to *Moldavsky et al* and U.S. Patent No. 5,416,831 to *Chewning II et al.* Claims 11-15 and 20 were rejected under 35 U.S.C. § 103(a) as being unpatentable over EP '638 in view of *Holland et al* and further in view of U.S. Patent No. 5,901,352 to *St. Pierre et al.* Claim 24 was rejected under 35 U.S.C. § 103(a) as being unpatentable over *Lerman* in view of *Holland et al.* The rejection of claims 1-17 and 19-24 is appealed.

**STATUS OF AMENDMENTS**

No amendments to the claims were submitted following the final Office Action mailed March 15, 2007.

### SUMMARY OF CLAIMED SUBJECT MATTER

The following summary refers to disclosed embodiments and their advantages but does not delimit any of the claimed inventions.

#### In General:

The present invention relates generally to fixed site broadband wireless networks, especially for those providing voice communications in addition to broadband data (i.e., Internet) connections. In one embodiment, a fixed wireless access (FWA) communications system 10 provides a large-area network including base station 12 and multiple subscriber stations 14 with wireless communications 16 therebetween on forward and reverse links 18, 16 using an integrated access device (IAD) 24 at each subscriber station 14 as the large-area network transceiver:

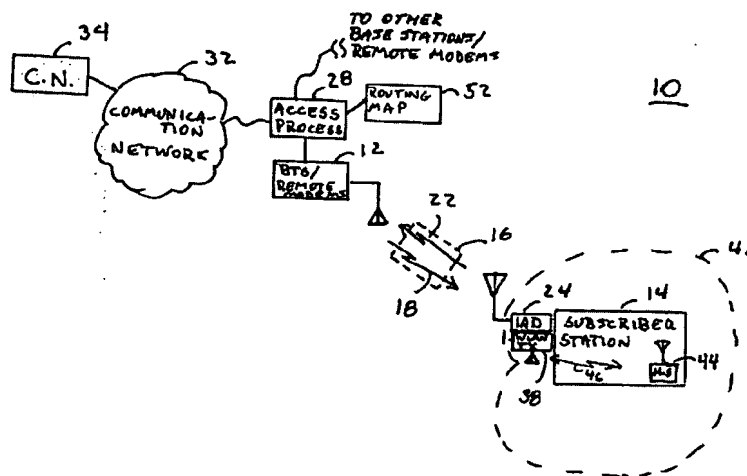


FIGURE 1

Specification, Figure 1, page 19, lines 2-15. The subscriber stations 14 are also capable of wireless

communications over a wireless local area network (WLAN) using local-area network transceiver 38 at the subscriber station 14 and coupled to the integrated access device transceiver circuitry. Specification, page 20, lines 13-17. Within the coverage area 42 of the wireless local-area network transceiver 38, mobile station(s) 44 may communicate with subscriber station 14 via transceiver 38 and local-area network wireless link 46. Specification, page 20, line 17 through page 21, line 4. Accordingly, wireless communications on the large-area network link 16 from base station 12 and intended for mobile station 44 can be received on the large-area network link 16 at subscriber station 14 and forwarded by subscriber station 14 on the local-area network link 46 to mobile station 44. Specification, page 21, lines 5-11. Similarly, wireless communications on the local-area network link 46 from the mobile station 44 and intended for the base station 12 may be received on the local-area network link 46 at subscriber station 14 and forwarded by subscriber station 14 on the large-area network link 16 to the base station 12. Specification, page 21, lines 11-16.

The coverage areas 42 of proximate subscriber stations 14 may overlap:

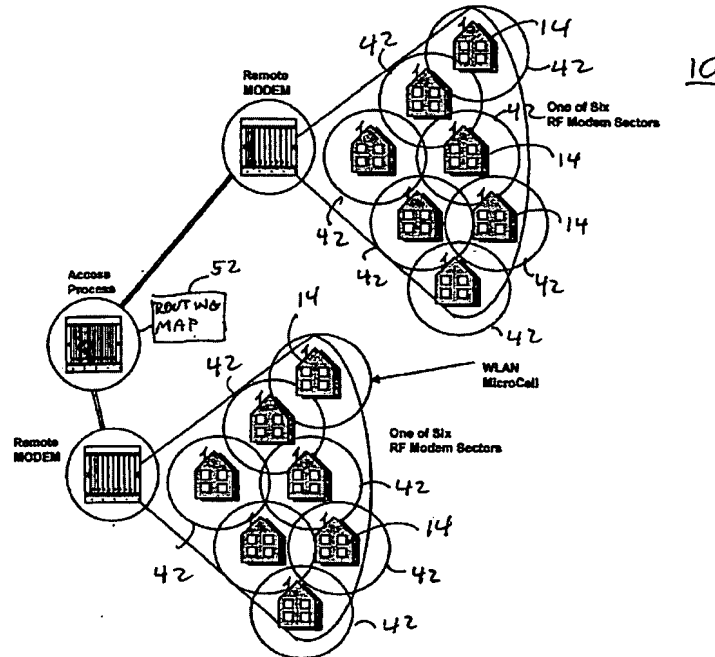


FIGURE 2

Specification, Figure 2, page 22, lines 7-9. A mobile station 44 initially positioned within the coverage area 42 of a first subscriber station 14 may move through the intermediate, overlapping coverage area into the coverage area 42 of a second subscriber station 14. Specification, page 22, lines 15-20. Upon such movement, a hand-off of communications between mobile station 44 and base station 12 from the first subscriber station 14 to the second subscriber station 14 occurs. Specification, page 22, line 20 through page 23, line 11.



Support for Independent Claims:

Per 37 C.F.R. § 41.37, only support for the independent claims is discussed herein. The discussion of the claims in this section is for illustrative purposes and is not intended to affect the scope of the claims.

The embodiment of independent claim 1 is implemented within a fixed wireless access (FWA) communication system 10 having at least a first fixed-site base station 12 and at least first and second fixed-site subscriber stations 14 each capable of wirelessly communicating with the first fixed-site base station 12. Specification, Figures 1-2, page 19, lines 2-8, page 22, lines 3-7. In order to facilitate radio communication with a mobile station 44, a local-network radio transceiver 38 positioned at each of the at least first and second fixed-site subscriber stations 14 selectably transceives communication signals 16 representing wireless communication of the fixed-site base station 12 with the mobile station 44 upon a local radio link 46 formed between the respective local-network radio transceiver 38 and the mobile station 44 when the mobile station 44 is positioned within a selected range 42 of the fixed-site subscriber station 14 at which the respective local-network radio transceiver 38 is positioned and handing off to the other local-network radio transceiver 38 when the mobile station 44 moves outside the selected range 42 of the fixed-site subscriber station 14 at which the respective local-network radio transceiver 38 is positioned but within the selected range 42 of the other fixed-site subscriber station 14 at which the other local-

network radio transceiver 38 is positioned. Specification, page 20, lines 13 through page 21, line 4, page 22, line 15 through page 23, line 2.

The embodiment of independent claim 5 is implemented within a fixed wireless access (FWA) communication system having at least a first fixed-site base station 12, a first fixed-site subscriber station 14 capable of wirelessly communicating with the first fixed-site base station 12, and a second fixed-site subscriber station 14 capable of communicating with the first fixed-site base station 12. Specification, Figures 1-2, page 19, lines 2-8, page 22, lines 3-7. The embodiment of independent claim 5 includes:

a first local-network radio transceiver 38 positioned at the first fixed-site subscriber station 14 and selectably transceiving communication signals 16 representing wireless communication of the fixed-site base station 12 with the mobile station 44 upon a first local radio link 46 formed between the first local-network radio transceiver 38 and the mobile station 44 when the mobile station 44 is positioned within a selected range 42 of the first fixed-site subscriber station 14 (Specification, page 20, lines 13 through page 21, line 4); and

a second local-network transceiver 38 positioned at the second fixed-site subscriber station 14 and selectably transceiving communication signals 16 representing wireless communication of the fixed-site base station 12 with the mobile station 44 upon a second local radio link 46 formed between the second local-network radio transceiver 38 and the mobile station 44 when the mobile station 44 is positioned within a selected range 42 of

the second fixed-site subscriber station 14 (Specification, page 22, line 15 through page 23, line 2).

The embodiment of independent claim 16 is a process for communicating in a fixed wireless access (FWA) communication system 10 having at least a first fixed-site base station 12, a first fixed-site subscriber station 14 capable of wirelessly communicating with the first fixed-site base station 12, and a second fixed-site subscriber station 14 capable of wirelessly communicating with the first fixed-site base station 12. Specification, Figures 1-2, page 19, lines 2-8, page 22, lines 3-7.

The embodiment of independent claim 16 includes:

selectably transceiving communication signals 16 representing wireless communication of the fixed-site base station 12 with the mobile station 44 using a first local radio link 46 formed between the mobile station 44 and a first local-network radio transceiver 38 positioned at the first fixed-site subscriber station 14 when the mobile station 44 is positioned within a selected range 42 of the first fixed-site subscriber station 14 (Specification, page 20, lines 13 through page 21, line 4); and

selectably transceiving communication signals 16 representing wireless communication of the fixed-site base station 12 with the mobile station 44 using a second local radio link 46 formed between the mobile station 44 and a second local-network radio transceiver 38 positioned at the second fixed-site subscriber station 14 when the mobile station 44 moves outside the selected range 42 of the first fixed-site subscriber station 14 but within the selected range 42 of the second fixed-site subscriber station 14 (Specification, page

22, line 15 through page 23, line 2).

The embodiment of independent claim 19 is a process for communicating in a fixed wireless access (FWA) communication system 12 having at least a mobile station 44, a first fixed-site base station 12, a first fixed-site subscriber station 14 capable of wirelessly communicating with the first fixed-site base station 12, a first local-network radio transceiver 38 positioned at the first fixed-site subscriber station 14, a second fixed-site subscriber station 14 capable of wirelessly communicating with the first fixed-site base station 12, a second local-network radio transceiver 38 positioned at the second fixed-site subscriber station 14, with the mobile station 44 moving between coverage areas 42 defined by the first local-network radio transceiver 38 and by the second local-network radio transceiver 38. Specification, Figures 1-2, page 19, lines 2-8, page 20, lines 13 through page 21, line 4, page 22, lines 3-7, page 22, line 15 through page 23, line 2. The embodiment of independent claim 19 includes:

handing-off communications representing wireless communication 16 of the fixed-site base station 12 with the mobile station 44 between the first local-network radio transceiver 38 and the second local-network radio transceiver 38 when the mobile station moves between the coverage areas 42.

The embodiment of independent claim 21 includes:

a first local network radio transceiver 38 positioned at a first fixed-site, fixed wireless access (FWA) communication system subscriber station 12 communicating wirelessly with a fixed-site, fixed wireless access communication system base station 10, the fixed-site,

fixed wireless access communication system base station 12 communicating wirelessly with a plurality of fixed-site, fixed wireless access communication system subscriber stations 14 (Specification, Figures 1-2, page 19, lines 2-8, page 20, lines 13 through page 21, line 4), wherein the first local network radio transceiver 38, when a mobile station 44 is positioned within a selected range of the first fixed-site subscriber station 14, receives first wireless signals 18 representative of first communications signals from the fixed-site base station 12 and selectively transmits second wireless signals (forward link of 46) representative of the first communications signals to the mobile station 44 (Specification, page 21, lines 11-16) and receives third wireless signals (reverse link of 46) representative of second communications signals from the mobile station 44 and selectively transmits fourth wireless signals 22 representative of the second communications signals to the fixed-site base station 12 (Specification, page 21, lines 5-11).

**GROUND OF REJECTION TO BE REVIEWED ON APPEAL**

Claims 21–23 were rejected under 35 U.S.C. § 102(e) as being anticipated by *Lerman*. Claims 1–3, 5–10, 16–17 and 19 were rejected under 35 U.S.C. § 103(a) as being unpatentable over EP ‘638 in view of *Holland et al.* Claim 4 was rejected under 35 U.S.C. § 103(a) as being unpatentable over EP ‘638 in view of *Holland et al* and further in view of *Moldavsky et al* and *Chewning II et al.* Claims 11–15 and 20 were rejected under 35 U.S.C. § 103(a) as being unpatentable over EP ‘638 in view of *Holland et al* and further in view of *St. Pierre et al.* Claim 24 was rejected under 35 U.S.C. § 103(a) as being unpatentable over *Lerman* in view of *Holland et al.*

**ARGUMENT**

**I. The rejection of claims 21–23 under 35 U.S.C. § 102(e) as being anticipated by *Lerman*.**

A claim is anticipated only if each and every element is found, either expressly or inherently described, in a single prior art reference. MPEP § 2131, page 2100-67 (8<sup>th</sup> ed. rev. 5 August 2006). The identical invention must be shown in as complete detail as is contained in the claim. *Id.*

Independent claim 21 recites that communications from the fixed-site base station to the mobile station are received on first (forward link) large-area network wireless signals by the local-area network transceiver and transmitted as second (forward link) local-area wireless signals to the mobile station, while communications from the mobile station to the fixed-site base station are received on third (reverse link) local-area network wireless signals by the local-area network transceiver and transmitted as fourth (reverse link) large-area network wireless signals to the fixed-site base station. Such a feature is not found in the cited reference.

The cited portion of *Lerman* does not teach or suggest that communications from mobile telephone switching center 16 are transmitted on forward and reverse links forming first and fourth wireless signals as recited in the claims, or that either F(1<sup>st</sup>) signals between base transceiver 14 and mobile unit 38 or F(2<sup>nd</sup>) signals between second converter 44 and mobile unit 38 are transmitted on forward and reverse links forming second and third wireless signals are recited in the claims. *Lerman* only described communications on a single frequency (i.e., a single, bi-directional, time-shared link) between devices.

Accordingly, *Lerman* does not anticipate independent claim 21 and dependent claims 22-23.

**II. The rejection of claims 1–3, 5–10, 16–17 and 19 under 35 U.S.C. § 103(a) as being unpatentable over EP ‘638 in view of *Holland et al.***

In *ex parte* examination of patent applications (and reexamination of patents), the Patent Office bears the burden of establishing a *prima facie* case of obviousness. MPEP § 2142, page 2100-125 (8<sup>th</sup> ed. rev. 5 August 2006). Absent such a *prima facie* case, the applicant is under no obligation to produce evidence of nonobviousness. *Id.*

To establish a *prima facie* case of obviousness, three basic criteria must be met: First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. *Id.* The reasonable expectation (or predictability) of success must be found in the prior art, and not based on applicant’s disclosure.

**A. Claims 1-3.**

Independent claim 1 recites that communications between the fixed-site base station and the mobile station are received from/transmitted to the fixed-site base station as large-area network wireless signals at a subscriber station and transmitted to/received from the mobile station as local-area network wireless signals, with a subscriber station handing off to an other local-network radio transceiver when the mobile station moves outside the selected range of the (initial) fixed-site subscriber station at which the respective local-network radio transceiver is positioned but within the selected range of an other fixed-site subscriber station at which the other local-network radio



transceiver is positioned. Such a feature is not found in the cited references, taken alone or in combination. *Holland et al*, cited in the final Office Action as teaching that feature (Paper No. 20070308, pages 5-6), actually teaches performing handoff based on (a) “communications quality” (signal strength and/or bit error rate) and (b) a “handoff threshold” that is determined at least in part based on whether a “candidate” cell is a neighbor cell, rather than on range of the respective transceivers. Hand-off according to the teachings of *Holland et al* may thus occur when the mobile unit is still within range of both transceivers, while the claim recites that the mobile unit is outside the range of one transceiver but within range of another.

Accordingly, the combination of EP ‘638 and *Holland et al* does not render independent claim 1 and dependent claims 2-3 obvious.

**B. Claim 2.**

Claim 2 recites both a local-area network transceiver and a large-area network transceiver at each fixed-site subscriber station having a respective coverage area. Such a feature is not found in the cited references, taken alone or in combination. EP ‘638 teaches a single “outdoor” base transceiver 14 for each cell 12 (EP ‘638, Figure 1), with no discussion of the number of “indoor” second converter transceivers 44 within a home or office 40 that may be disposed within a given cell 12. On the contrary, EP ‘638 states that subscribers are not confined to a single cell (EP ‘638 column 9, lines 27-28), and allows for multiple subscribers within the entire network (EP ‘638, column 10, lines 7-14), indicating that a single cell may service more than a single subscriber. Therefore no inference may be drawn that each subscriber station 40 contains an outdoor base

transceiver 14 as well as an “indoor” second converter 44.

Accordingly, the combination of EP ‘638 and *Holland et al* does not render claim 2 obvious.

**C. Claims 5–10 and 16-17.**

Independent claim 5 recites that communications between the fixed-site base station and the mobile station are transceived by a first local-network radio transceiver positioned at the first fixed-site subscriber station upon a first local radio link when the mobile station is positioned within a selected range of the first fixed-site subscriber station, and are transceived by a second local-network radio transceiver positioned at the second fixed-site subscriber station upon a second local radio link when the mobile station is positioned within a selected range of the second fixed-site subscriber station. Similarly, independent claim 16 recites selectably transceiving communication signals representing wireless communication of the fixed-site base station with the mobile station using a first local radio link formed between the mobile station and a first local-network radio transceiver positioned at the first fixed-site subscriber station when the mobile station is positioned within a selected range of the first fixed-site subscriber station, and selectably transceiving communication signals representing wireless communication of the fixed-site base station with the mobile station using a second local radio link formed between the mobile station and a second local-network radio transceiver positioned at the second fixed-site subscriber station when the mobile station moves outside the selected range of the first fixed-site subscriber station but within the selected range of the second fixed-site subscriber station. Such a feature is not found in the cited references, taken alone or in combination. *Holland et al*, cited in the final Office Action as teaching that feature (Paper No.

20070308, pages 5-6), actually contains no teaching as to selection of a cell to (at least initially) transceive communications. Moreover, to the extent that the handoff method of *Holland et al* is considered as a means for making such selection for initial transceiving of communications, that method is based on (a) “communications quality” (signal strength and/or bit error rate) and (b) a “handoff threshold” that is determined at least in part based on whether a “candidate” cell is a neighbor cell, rather than on position relative to the range of the respective transceivers. EP ‘638 does not teach selection between two (or more) local-area network transceivers, but instead selection between an “outdoor” base station 14 (i.e., a large-area network transceiver according to the Office Action) and an “indoor” second converter 44 (i.e., a local-area network transceiver according to the Office Action).

Accordingly, the combination of EP ‘638 and *Holland et al* does not render independent claims 5 and 16 and dependent claims 6–10 and 17 obvious.

**D. Claim 17.**

Claim 17 recites the first and second fixed-site subscriber stations include each both a local-area network transceiver and a large-area network transceiver. Such a feature is not found in the cited references, taken alone or in combination. EP ‘638 teaches a single “outdoor” base transceiver 14 for each cell 12 (EP ‘638, Figure 1), with no discussion of the number of “indoor” second converter transceivers 44 within a home or office 40 that may be disposed within a given cell 12. On the contrary, EP ‘638 states that subscribers are not confined to a single cell (EP ‘638 column 9, lines 27-28), and allows for multiple subscribers within the entire network (EP ‘638, column 10, lines 7-

14), indicating that a single cell may service more than a single subscriber. Therefore no inference may be drawn that each subscriber station 40 contains an outdoor base transceiver 14 as well as an “indoor” second converter 44.

Accordingly, the combination of EP ‘638 and *Holland et al* does not render claim 17 obvious.

**III. The rejection of claim 4 under 35 U.S.C. § 103(a) as being unpatentable over EP ‘638 in view of *Holland et al* and further in view of *Moldavsky et al* and *Chewning II et al*.**

Claim 4 recites that the large-area network transceiver comprises a rack assembly having at least one expansion slot at which card-mounted circuitry is connectable the local-area network transceiver comprises a local-area network card connectable to the expansion slot. Such a feature is not found in the cited references, taken alone or in combination. The two references cited in the Office Action (Paper No. 20070308, pages 10-11) as collectively disclosing this feature, *Moldavsky et al* and *Chewning II et al*, do not disclose a first transceiver implemented as a rack assembly with an expansion slot and a second transceiver implemented as an expansion card for the expansion slot as required by the claim. *Moldavsky et al* teaches that each of a plurality of transceivers is implemented as a separate rack assembly. *Moldavsky et al*, column 12, lines 17-24. The cited portion of *Chewning II et al* teaches that a processor motherboard may be implemented with expansion slots for receiving peripheral cards. Neither reference, taken alone or in combination with the other, suggests implementing two transceivers, one as a rack assembly including an expansion slot and the other as an expansion card received by the expansion slot.

Accordingly, the combination of EP ‘638, *Holland et al*, *Moldavsky et al* and *Chewning II et al* does not render claim 17 obvious.

**IV. The rejection of claims 11–15 and 20 under 35 U.S.C. § 103(a) as being unpatentable over EP ‘638 in view of *Holland et al* and further in view of *St. Pierre et al*.**

Claim 11 recites a routing map coupled to the first fixed-site base station and containing an indication of the cellular area – the first cellular area or the second cellular area – in which the mobile station is positioned. Such a feature is not found in the cited references, taken alone or in combination.

The portion of *St. Pierre et al*, column 23, lines 31–35, cited in the Office Action as teaching this feature (see Paper No. 20070308, page 11) does not exist. Moreover, the visitor location register (VLR) 40 and home location register (HLR) 70 associated with any particular mobile switching center 30 in the system disclosed in *St. Pierre et al* do not contain an indication of in which of multiple (at least first and second) coverage areas served by a fixed-site base station a mobile station is located, but instead contain respectively an identifier for a “visiting” mobile unit and an identification of a different mobile switching center (other than the mobile switching center at which the home location register is maintained) for the coverage area within which the mobile unit is located. *St. Pierre et al* does not teach maintaining a routing map at a fixed-site base station for an indication of one of at least two coverage areas served by the that fixed-site base station in which a mobile station wirelessly communicating with the fixed-site base station is located.

Accordingly, the combination of EP ‘638, *Holland et al* and *St. Pierre et al* does not render claim 11 obvious.

V. The rejection of claim 24 under 35 U.S.C. § 103(a) as being unpatentable over *Lerman* in view of *Holland et al.*

Claim 24 recites a second local-area network transceiver at the second fixed-site subscriber station such that, when the mobile station is outside the coverage area of the first fixed-site subscriber station, communications from the fixed-site base station to the mobile station are received on fifth (forward link) large-area network wireless signals by the local-area network transceiver and transmitted as sixth (forward link) local-area wireless signals to the mobile station, while communications from the mobile station to the fixed-site base station are received on seventh (reverse link) local-area network wireless signals by the local-area network transceiver and transmitted as eighth (reverse link) large-area network wireless signals to the fixed-site base station. Such a feature is not found in the cited reference.

The cited portion of *Lerman* does not teach or suggest that communications from mobile telephone switching center 16 are transmitted on forward and reverse links forming first and fourth wireless signals as recited in the claims, or that either F(1<sup>st</sup>) signals between base transceiver 14 and mobile unit 38 or F(2<sup>nd</sup>) signals between second converter 44 and mobile unit 38 are transmitted on forward and reverse links forming second and third wireless signals are recited in the claims. *Lerman* only described communications on a single frequency (i.e., a single, bi-directional, time-shared link) between devices.

Accordingly, the combination of *Lerman* and *Holland et al* does not render claim 24 obvious.

**SUMMARY**

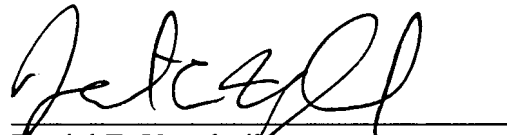
The Appellants have demonstrated that the present invention as claimed is clearly distinguishable over the prior art cited of record. Therefore, the Appellants respectfully request that the Board of Patent Appeals and Interferences reverse the final rejection of the final Office Action and instruct the Examiner to issue a notice of allowance of all claims.

The Director is hereby authorized to charge any additional fees (including any extension of time fees) or credit any overpayments to Deposit Account No. 50-0208.

Respectfully submitted,

MUNCK BUTRUS, P.C.

Date: 9-18-2007



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**DOCKET NO. WEST14-00024**  
**Customer No. 23990**

**PATENT**

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re application of: Paul F. Struhsaker  
Serial No.: 09/839,499  
Filed: April 20, 2001  
For: APPARATUS, AND AN ASSOCIATED METHOD, FOR  
PROVIDING WLAN SERVICE IN A FIXED WIRELESS  
ACCESS COMMUNICATION SYSTEM  
Group No.: 2617  
Examiner: James D. Ewart

**MAIL STOP APPEAL BRIEF - PATENTS**

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**APPENDIX A**

**PENDING CLAIMS APPENDIX**



1. (Previously Presented) In a fixed wireless access (FWA) communication system having at least a first fixed-site base station and at least first and second fixed-site subscriber stations each capable of wirelessly communicating with the first fixed-site base station, an apparatus for facilitating radio communication with a mobile station, said apparatus comprising:

a local-network radio transceiver positioned at each of the at least first and second fixed-site subscriber stations, each said local-network radio transceiver selectably transceiving communication signals representing wireless communication of the fixed-site base station with the mobile station upon a local radio link formed between the respective local-network radio transceiver and the mobile station when the mobile station is positioned within a selected range of the fixed-site subscriber station at which the respective local-network radio transceiver is positioned and handing off to the other local-network radio transceiver when the mobile station moves outside the selected range of the fixed-site subscriber station at which the respective local-network radio transceiver is positioned but within the selected range of the other fixed-site subscriber station at which the other local-network radio transceiver is positioned.

2. (Previously Presented) The apparatus of Claim 1 wherein the first and second fixed-site subscriber stations each include a large-area-network transceiver positioned thereat for transceiving wireless communication signals upon a large-area radio link with the fixed-site base station and wherein said local-network radio transceiver is coupled to the large-area-network transceiver such that wireless communication signals generated at the fixed-site base station, communicated upon the large-area radio link and received at the large-area-network transceiver, are routed to said local-area-network transceiver to be communicated to the mobile station upon the local radio link.

3. (Previously Presented) The apparatus of Claim 2 wherein communication signals generated at the mobile station and communicated upon the local radio link to said local-network transceiver are routed to the large-area-network transceiver to be wirelessly communicated upon the large-area radio link to the fixed-sited base station.

4. (Previously Presented) The apparatus of Claim 2 wherein the large-area-network transceiver comprises a rack assembly having at least one expansion slot at which card-mounted circuitry is connectable, thereafter to form a portion of the rack assembly and wherein said local-network transceiver comprises a local area network card connectable to the expansion slot.

5. (Previously Presented) In a fixed wireless access (FWA) communication system having at least a first fixed-site base station, a first fixed-site subscriber station capable of wirelessly communicating with the first fixed-site base station, and a second fixed-site subscriber station capable of communicating with the first fixed-site base station, an apparatus comprising:

a first local-network radio transceiver positioned at the first fixed-site subscriber station said first local-network radio transceiver selectably transceiving communication signals representing wireless communication of the fixed-site base station with the mobile station upon a first local radio link formed between the first local-network radio transceiver and the mobile station when the mobile station is positioned within a selected range of the first fixed-site subscriber station; and

a second local-network transceiver positioned at the second fixed-site subscriber station, said second local-network radio transceiver selectably transceiving communication signals representing wireless communication of the fixed-site base station with the mobile station upon a second local radio link formed between the second local-network radio transceiver and the mobile station when the mobile station is positioned within a selected range of the second fixed-site subscriber station.

6. (Original) The apparatus of Claim 5 wherein said first local-network transceiver defines a first cellular area within which the mobile station is capable of transceiving the communication signals with said first local-network transceiver and wherein said second local-network transceiver defines a second cellular area within which the mobile station is capable of transceiving the communication signals with said second local-network transceiver.

7. (Original) The apparatus of Claim 6 wherein the first cellular area defined by said first local-network transceiver and the second cellular area defined by said second local-network transceiver at least partially overlap and wherein selection is made of with which one of said first and second local-network transceivers, respectively, that the mobile station communicates responsive to determination of at least one communication parameter.

8. (Original) The apparatus of Claim 7 wherein the at least one communication parameter responsive to which selection is made of with which one of said first and second local-network transceiver that the mobile station communicates comprises a signal quality parameter.

9. (Original) The apparatus of Claim 7 wherein the at least one communication parameter responsive to which selection is made of with which one of said first and second local-network transceivers that the mobile station communicates comprises a system load-related parameter.

10. (Original) The apparatus of Claim 6 wherein the mobile station is permitted movement at least between the first cellular area and the second cellular area and wherein communication hand-offs are performed between said first local-network transceiver and said second local-network transceiver responsive to movement of the mobile station between the first cellular area and the second cellular area defined by said first local-network transceiver and said second local-network transceiver, respectively.

11. (Original) In the fixed wireless access system of claim 10, a further improvement of a routing map coupled to the at least the first fixed-site base station, said routing map containing an indication of in which of the first cellular area and the second cellular area that the mobile station is positioned.

12. (Original) In the fixed wireless access system of Claim 11 wherein the at least the first fixed-site base station is connected to an access processor and wherein said routing map is located at the access processor.

13. (Original) The routing map of Claim 12 wherein the indication of in which cellular area that the mobile station is located is updated responsive to changes in location of the mobile station.

14. (Original) The routing map of Claim 12 wherein routing of communication signals to the mobile station is selected responsive to values of the indication contained thereat.

15. (Original) The routing map of Claim 14 wherein, subsequent to updating of the values of the indication contained thereat, and responsive to hand-off of communications between said first local-network radio transceiver and said second local-network radio transceiver, undelivered communication signals are rerouted according to updated values of the indication.

16. (Previously Presented) A method for communicating in a fixed wireless access (FWA) communication system having at least a first fixed-site base station, a first fixed-site subscriber station capable of wirelessly communicating with the first fixed-site base station, and a second fixed-site subscriber station capable of wirelessly communicating with the first fixed-site base station, a method comprising:

selectably transceiving communication signals representing wireless communication of the fixed-site base station with the mobile station using a first local radio link formed between the mobile station and a first local-network radio transceiver positioned at the first fixed-site subscriber station when the mobile station is positioned within a selected range of the first fixed-site subscriber station; and

selectably transceiving communication signals representing wireless communication of the fixed-site base station with the mobile station using a second local radio link formed between the mobile station and a second local-network radio transceiver positioned at the second fixed-site subscriber station when the mobile station moves outside the selected range of the first fixed-site subscriber station but within the selected range of the second fixed-site subscriber station.

17. (Previously Presented) The method of Claim 16 wherein the first and second fixed-site subscriber stations each include a large-area-network transceiver positioned thereat for transceiving wireless communication signals upon a large-area radio link with the fixed-site base station, wherein the first and second local-network radio transceivers are each coupled to the large-area-network transceiver positioned at the respective first or second fixed-site subscriber station such that communication signals generated at the fixed-site base station, communicated upon the large-area radio link and received at the large-area-network transceiver, are routed to the first or second local-area-network transceiver to be communicated to the mobile station upon the first or second local radio link.

18. (Canceled).



19. (Previously Presented) A method for communicating in a fixed wireless access (FWA) communication system having at least a mobile station, a first fixed-site base station, a first fixed-site subscriber station capable of wirelessly communicating with the first fixed-site base station, a first local-network radio transceiver positioned at the first fixed-site subscriber station, a second fixed-site subscriber station capable of wirelessly communicating with the first fixed-site base station, a second local-network radio transceiver positioned at the second fixed-site subscriber station, and a mobile station moving between coverage areas defined by the first local-network radio transceiver and by the second local-network radio transceiver, the method comprising:

handing-off communications representing wireless communication of the fixed-site base station with the mobile station between the first local-network radio transceiver and the second local-network radio transceiver when the mobile station moves between the coverage areas.

20. (Previously Presented) The method of Claim 19, further comprising:

maintaining a routing map indicating in which coverage area the mobile station is positioned.

21. (Previously Presented) An apparatus comprising:

a first local network radio transceiver positioned at a first fixed-site, fixed wireless access (FWA) communication system subscriber station communicating wirelessly with a fixed-site, fixed wireless access communication system base station, the fixed-site, fixed wireless access communication system base station communicating wirelessly with a plurality of fixed-site, fixed wireless access communication system subscriber stations, wherein the first local network radio transceiver, when a mobile station is positioned within a selected range of the first fixed-site subscriber station,

receives first wireless signals representative of first communications signals from the fixed-site base station and selectively transmits second wireless signals representative of the first communications signals to the mobile station and

receives third wireless signals representative of second communications signals from the mobile station and selectively transmits fourth wireless signals representative of the second communications signals to the fixed-site base station.

22. (Previously Presented) The apparatus of Claim 21, further comprising:

a first large area network radio transceiver positioned at the first fixed-site subscriber station, the large area network transceiver receiving the first wireless signals and transmitting the fourth wireless signals upon a large area radio link between the fixed-site base station and the first fixed-site subscriber station,

wherein the first local network radio transceiver is coupled to the large area network radio transceiver such that the first communication signals from the fixed-site base station, communicated as the first wireless signals upon the large area radio link and received at the large area network radio transceiver, are routed to the first local area network transceiver to be communicated as the second wireless signals to the mobile station upon a local radio link between the first fixed-site subscriber station and the mobile station.

23. (Previously Presented) The apparatus of Claim 22 wherein the second communication signals from the mobile station, communicated as the third wireless signals upon the local radio link to the first local network transceiver, are routed to the large area network transceiver to be communicated as the fourth wireless signals upon the large area radio link to the fixed-sited base station.

24. (Previously Presented) A wireless communications system including the apparatus according to Claim 21, the wireless communications system including the fixed-site base station, the first fixed-site subscriber station, and a second fixed-site, fixed wireless access communication system subscriber station, the wireless communications system further comprising:

a second local network radio transceiver positioned at the second fixed-site subscriber station, wherein the second local network radio transceiver, when the mobile station is positioned outside a selected range of the first fixed-site subscriber station and within a selected range of the second fixed-site subscriber station,

receives fifth wireless signals representative of the first communications signals from the fixed-site base station and selectively transmits sixth wireless signals representative of the first communications signals to the mobile station, and

receives seventh wireless signals representative of the second communications signals from the mobile station and selectively transmits eighth wireless signals representative of the second communications signals to the fixed-site base station.



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PATENT

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Filed: April 20, 2001  
For: APPARATUS, AND AN ASSOCIATED METHOD, FOR  
PROVIDING WLAN SERVICE IN A FIXED WIRELESS  
ACCESS COMMUNICATION SYSTEM  
Group No.: 2617  
Examiner: James D. Ewart

**MAIL STOP APPEAL BRIEF - PATENTS**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

**APPENDIX B**

**EVIDENCE APPENDIX**

None

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**APPENDIX C**

**RELATED PROCEEDINGS APPENDIX**

None